

Coin machine

**EMS-5x** (from 01/2015)

Operating instructions



[www.tgelectronics.no](http://www.tgelectronics.no)

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# 1 Features

## 1.1 Common features of the EMS-56 and EMS-57

- mechanical coin selector, available for different types of coins
- programmable minimum insertion (1 up to 4 coins)
- programming via DIP-switches
- from 1 seconds up to 640 minutes per coin selectable
- maximum time up to 99 days
- door opener for washing machines (optional)

## 1.2 Special features of the EMS-56

- one-digit LED-display
- number of inserted coins is displayed (time is not displayed)

## 1.3 Special features of the EMS-57

- three-digit LED-display
- remaining time is displayed
- 24 V version available (optional)

# 2 Safety precautions

The coin operated timers of the EMS-56/57 series are built by the state of technology and the generally accepted safety-related rules. Nevertheless there may occur risks for the user or other persons as well as impairments of the device or other values. Use the device only under faultless conditions, as well as due, safety- and risk-conscious regarding the user manual!

Especially eliminate faults, that may impair safety, immediately! Keep the user manual always on site of the device! Pay attention - additional to the user manual- to the general valid legal and other obligatory rules such as accident prevention and environmental protection! Do not make any changes and/or modifications without the authorization of the manufacturer. Spare parts have to correspond to the manufacturer-defined standards. This is only guaranteed, if original spare parts are used. Maintain the required or within this manual stated deadlines for repeating maintenance intervals! Provide a safe and non-polluting disposal of plastic or electrical replacement parts!

This coin operated timers are exclusive designed for managing different electric devices in rooms. Any other or further use is not provided. The manufacturer is not liable for losses, that result from misuse. A due use contains to heed the user guide and to observe the terms of service and maintenance as well.

### 3 Installation and maintenance

#### 3.1 Mounting

The unit is provided for fixed wiring and assembly in rooms. For fixing the device there are three drillings with a diameter of 6 mm at the back side. It must be taken care, that the case is mounted vertically, otherwise a proper operation of the coin selector may be reduced. The EMS-56/57 has to be mounted at a solid wall in order to avoid heavy vibrations.

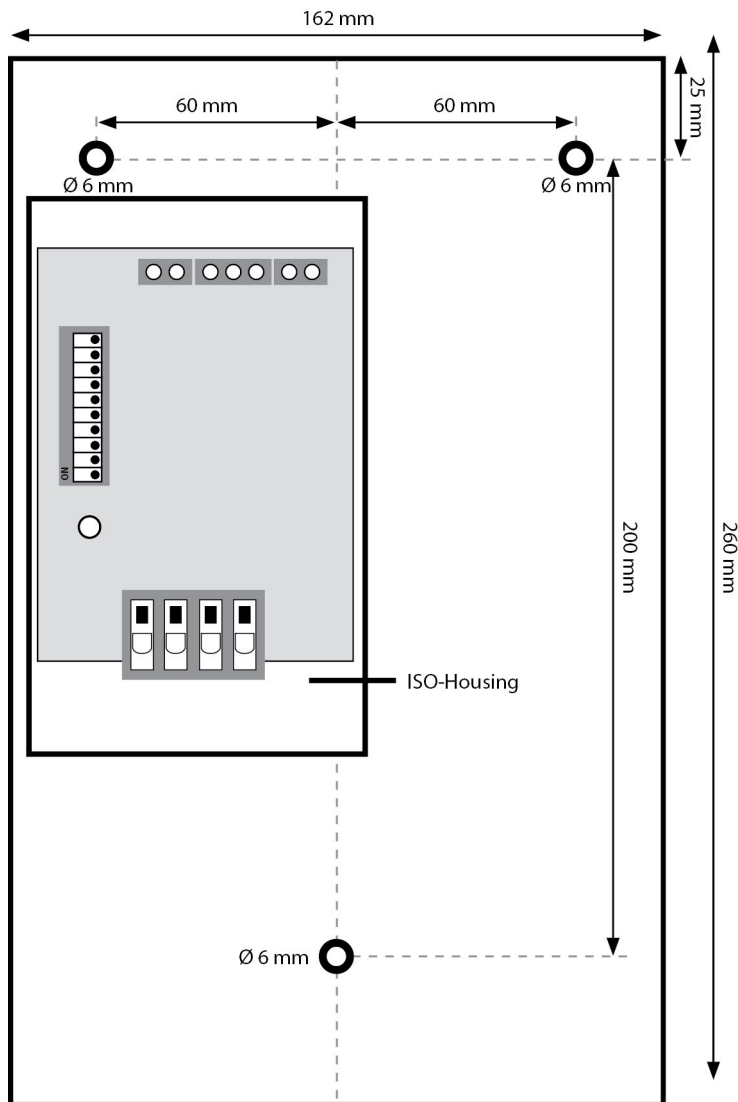


Figure 1 : Dimensions

### 3.2 Electrical installation

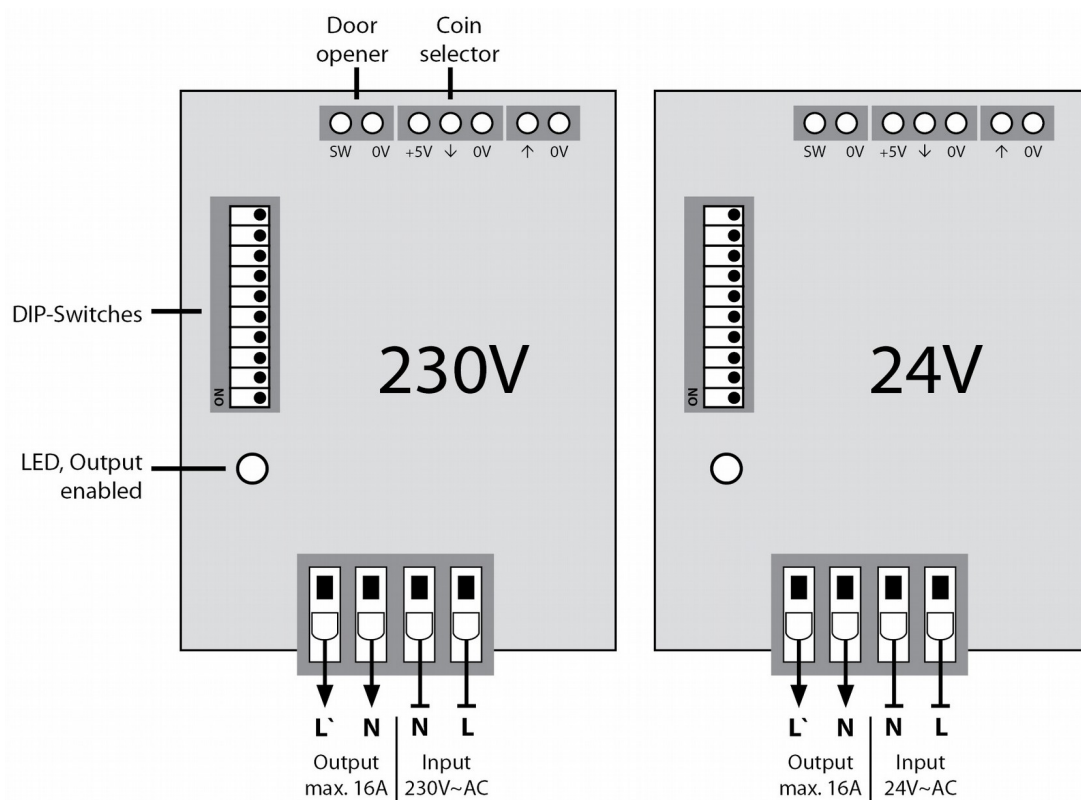
The installation of the EMS-56/57 is limited to the connection of the main power supply and the switched outputs according to the connection survey:

**CAUTION :**

**Arrange that the mounting is accomplished by an authorized electric company. The electrical connection must be performed by an electrically skilled person !**

**Electrically skilled and qualified personnel must be able to read and understand electric circuit diagrams, to commission and maintain electrical systems, to wire switch and control cabinets, to install controlling software, to ensure proper functioning of electrical components and to identify possible hazards in the work with electric and electronic systems.**

**Since this is a stationary device with a fixed main power supply, an RCBO must be installed on the installation side!**



**Figure 2 :** Connection diagram standard version 230V (left), special version 24V (right)

**Requirements:**

- main power supply is power-less
- RCBO is switched off

The following wire cross sections must be used for connection:

- Conductor cross section (1 wire): 2,5 mm<sup>2</sup>
- Conductor cross section stranded: 2,5 mm<sup>2</sup>
- Conductor cross section stranded (in ferrule without plastic collar): 1,5 mm<sup>2</sup>

Stripping length: 8-9 mm



The clamps are equipped with CAGE CLAMP® connection technology for slotted screwdriver operation only.

The following sequence must be followed during the electrical installation (see Figure 3):

1. Insert a flat-head screwdriver (3x100) in the square clamp opening and possibly exert a slight pressure on the spring. Do not turn the screwdriver!
2. Insert the stripped wire through the round clamp opening into the opened spring cage.
3. Remove the screwdriver.
4. Check the fixed position of the conductor by gently pulling the cable!

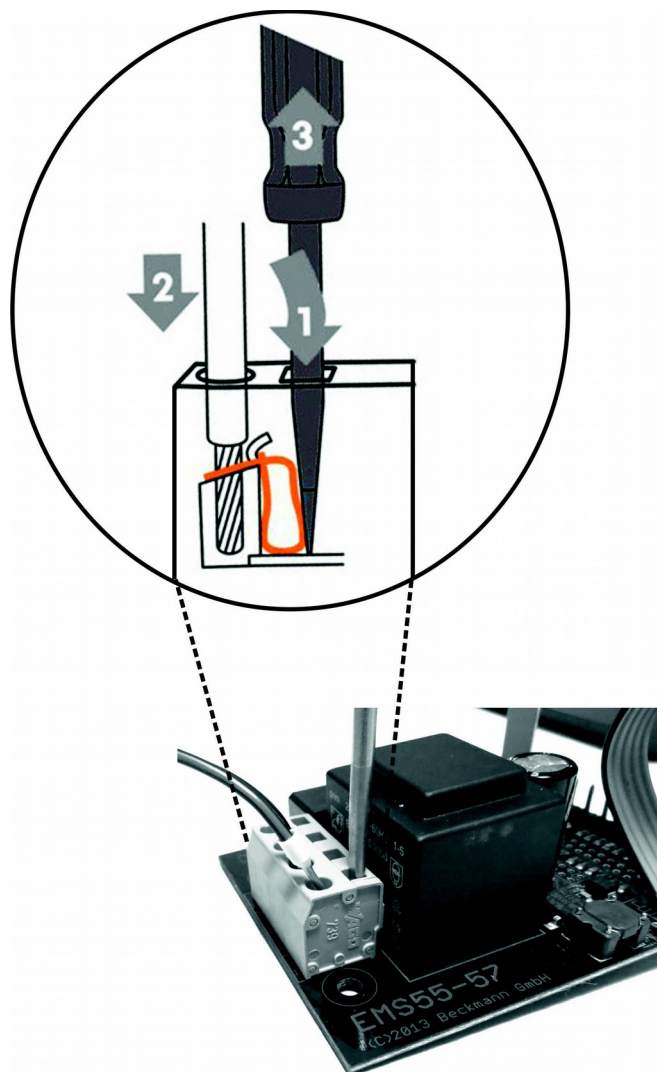


**CAUTION:**

***Do not push the wire into the square clamp opening!***

***Do not push the wire into the clamp before clamp is fully opened ! (refer to sequence above)***

***Otherwise, the contact is not sufficient and it may create sparks or fires! Defects by a non-professional installation are not covered by the guarantee or warranty - Liability for consequential damages are excluded!***



**Figure 3 :** Handling instructions for wire connection

## 4 Operation

### 4.1 Selling time with the EMS-56

The EMS-56 only displays the number of inserted coins via one-digit. The customer will not receive any direct information about the bought time. If a coin is inserted into the EMS-56, the display shows "1". The output however will only be released, if the minimum insertion has been reached. A blinking display signals, that the minimum insertion has not been reached yet. The display will increase by one until an amount of 9 coins is reached. Furthermore it is possible to insert more coins until the maximum time of 99 days is reached. An insertion of more than 9 coins is indicated by the red dot mark.

**CAUTION:**

***Coins, that are inserted after the maximum time of 99 days has already been reached, will not get rated.***

During operation, the displayed number of paid coins will continuously be decreased by one according to the consumption (remaining number of coins less than nine). If the complete time has run out, the display changes to "0" and the output will be disabled.

### 4.2 Selling time with the EMS-57

The EMS-57 displays the remaining time until the output will be blocked. If a coin is inserted, the released time will be displayed. The output however will only be released, if the minimum insertion is reached. A blinking display signals, that the minimum insertion has not been reached yet. An insertion of further coins increases the displayed time by the programmed amount. This may be repeated until the maximum time of 99 days is reached.

**CAUTION:**

***Coins, that are inserted after the maximum time of 99 days has already been reached, will not get rated.***

During operation, the remaining time is shown in the display of the coin machine. During operation, the available time is counted down – a flashing red dot indicates this countdown status. If the complete time has run out, the display changes to "0" and the output will be disabled.

### 4.3 Door opener (optional feature ) EMS-56-TE/EMS-57-TE

The door opener is available as an optional feature. Some washing machines or dryers need power in order to open the door. In order to support this devices, the EMS-56-TE/EMS-57-TE is customized with a push button at the front side. By pressing this button, the output will be released for 10 seconds.



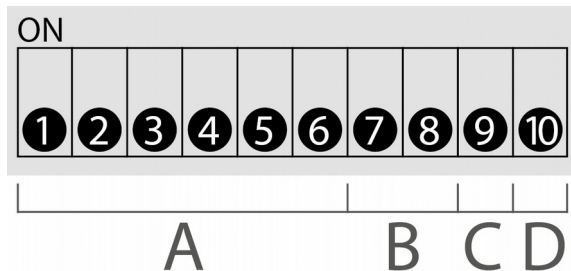
## 5 Programming

### 5.1 General notes

**CAUTION:**

*In order to program the EMS-56/57, the ISO housing within the EMS-56/57 has to be opened. Since there is high voltage behind the cover, the main power supply of EMS-56/57 must be power-less and RCBO must be switched off!*

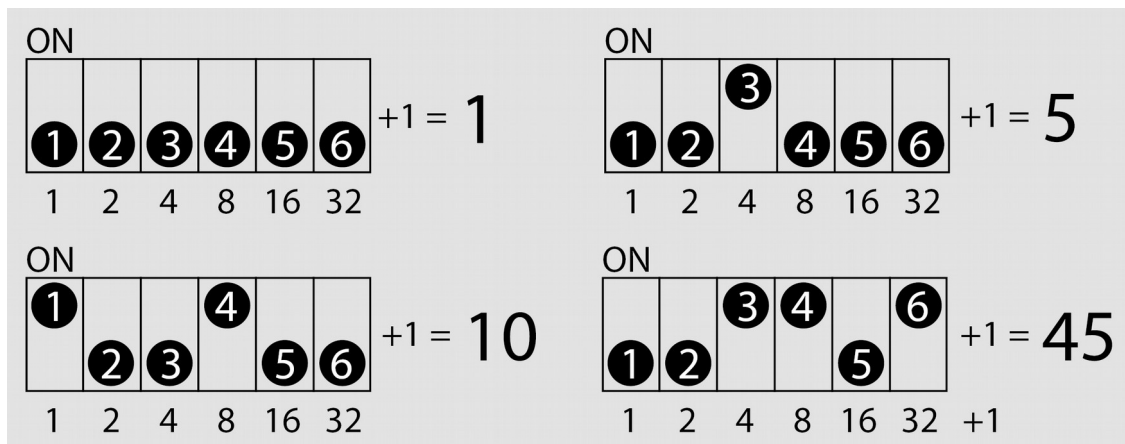
10x DIP-switches for programming the EMS-5x are available on the electronic-PCB:



- **A**, DIP switches 1-6: **Time base**
- **B**, DIP switches 7-8: **Minimum insertion**
- **C**, DIP switch 9: **Selecting time factor 1 or 10**
- **D**, DIP switch 10: **Selecting seconds or minutes**

### 5.2 Basic time (DIP-switches 1-6)

The basic time indicates the time, that will be released per every single coin. The basic time can be configured with DIP-switches 1-6. The resulting time base is the sum of all activated values + 1:



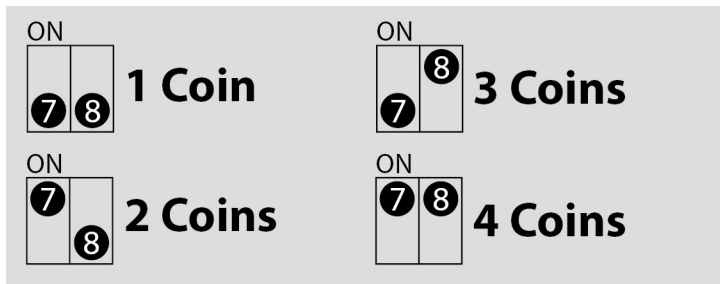
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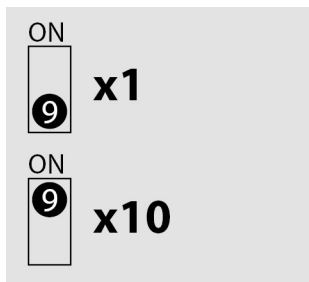
### 5.3 Minimum insertion

The minimum insertion can be configured with the DIP-switches 7 and 8. The minimum insertion indicates the minimum number of coins, that have to be inserted to activate the output.



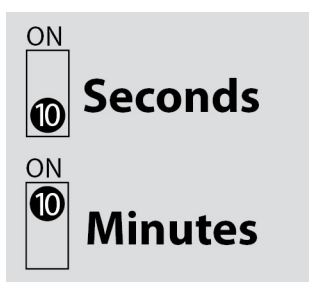
### 5.4 Time-factor

In order to program time-periods of more than 64 seconds or minutes, you have to set the DIP-switch 9 to "ON" to activate the time-factor. This will multiply the time by factor 10.



### 5.5 Switching seconds or minutes

If the configured amount is counted as seconds or minutes can be configured with DIP-switch 10:



## 6 Technical data

	<b><i>Standard version 230V</i></b>	<b><i>Special version 24V</i></b>
<b>Energy supply</b>	230V AC/50Hz	24V AC
<b>Power consumption</b>	3W	
<b>Output rating</b>	max. 16A/230V	max. 16A/24V
<b>Temperature of operation</b>	0 to 40 °C with 30 to 70 % RH	
<b>Weight</b>	2,5kg	
<b>Dimensions (W x H x D)</b>	162 x 260 x 110 mm	



[www.tgelectronics.no](http://www.tgelectronics.no)

Vidhaugen 114  
7550 Hommelvik  
Tele: 73979017-91795392  
e-post: [post@tgelectronics.no](mailto:post@tgelectronics.no)

## 7 EC-Declaration of Conformity



### EG-Konformitätserklärung

im Sinne der EG-Richtlinie Niederspannung 2006/95/EG, Anhang III Abschnitt B

Hiermit bestätigen und erklären wir in alleiniger Verantwortung, dass das nachfolgend bezeichnete Gerät in seiner Konzeption und Bauart sowie in der von uns in Verkehr gebrachten Ausführung allen Bestimmungen der EG-Richtlinie Niederspannung i.d.F. 2006/95/EG entspricht.

Beschreibung d. elektr. Betriebsmittel	Münzautomat EMS-56 Münzautomat EMS-57
Einschlägige EG-Richtlinien	Richtlinie Niederspannung 2006/95/EG in der Fassung vom 12.12.2006  Richtlinie 2004/108/EG über die elektromagnetische Verträglichkeit in der Fassung vom 15.12.2004
Sonstige angewandte technische Normen und Spezifikationen	Sicherheitsstandards: DIN EN 61010-1 in der Fassung vom Juli 2011  EMV-Standards: DIN EN 61326-1 in der Fassung vom Juli 2013
Hersteller	Beckmann GmbH Brandtstr. 1 33161 Hövelhof Deutschland Tel: +49 5257 9823-0 Email: <a href="mailto:info@beckmann-gmbh.de">info@beckmann-gmbh.de</a>

**Jürgen Beckmann, Geschäftsführer**

Hövelhof, 29.07.2014

.....  
(rechtsverbindliche Unterschrift)



## 8 Overview DIP-switch configuration

### Basic time

1	ON	1 2 3 4 5 6	17	ON	1 2 3 4 5 6	33	ON	1 2 3 4 5 6	49	ON	1 2 3 4 5 6
2	1	2 3 4 5 6	18	1	2 3 4 5 6	34	1	2 3 4 5 6	50	1	2 3 4 5 6
3	2	1 3 4 5 6	19	2	1 3 4 5 6	35	2	1 3 4 5 6	51	2	1 3 4 5 6
4	1 2	3 4 5 6	20	1 2	3 4 5 6	36	1 2	3 4 5 6	52	1 2	3 4 5 6
5	1 2 3	4 5 6	21	1 2 3	4 5 6	37	1 2 3	4 5 6	53	1 2 3	4 5 6
6	1 2 3 4	5 6	22	1 2 3 4	5 6	38	1 2 3 4	5 6	54	1 2 3 4	5 6
7	1 2 3 4 5	6	23	1 2 3 4 5	6	39	1 2 3 4 5	6	55	1 2 3 4 5	6
8	1 2 3 4 5 6		24	1 2 3 4 5 6		40	1 2 3 4 5 6		56	1 2 3 4 5 6	
9	1 2 3 4 5 6		25	1 2 3 4 5 6		41	1 2 3 4 5 6		57	1 2 3 4 5 6	
10	1 2 3 4 5 6		26	1 2 3 4 5 6		42	1 2 3 4 5 6		58	1 2 3 4 5 6	
11	1 2 3 4 5 6		27	1 2 3 4 5 6		43	1 2 3 4 5 6		59	1 2 3 4 5 6	
12	1 2 3 4 5 6		28	1 2 3 4 5 6		44	1 2 3 4 5 6		60	1 2 3 4 5 6	
13	1 2 3 4 5 6		29	1 2 3 4 5 6		45	1 2 3 4 5 6		61	1 2 3 4 5 6	
14	1 2 3 4 5 6		30	1 2 3 4 5 6		46	1 2 3 4 5 6		62	1 2 3 4 5 6	
15	1 2 3 4 5 6		31	1 2 3 4 5 6		47	1 2 3 4 5 6		63	1 2 3 4 5 6	
16	1 2 3 4 5 6		32	1 2 3 4 5 6		48	1 2 3 4 5 6		64	1 2 3 4 5 6	

### Minimum insertion

ON	7 8	1 Coin	ON	7 8	3 Coins
ON	7 8	2 Coins	ON	7 8	4 Coins

### Time-factor

ON	9	x1
ON	9	x10

### Sec./Minutes

ON	10	Seconds
ON	10	Minutes